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**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

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**FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY**

In the Matter of )  
 )  
1998 Biennial Regulatory Review -- )  
Streamlining of Radio Technical Rules in ) MM Docket No. 98-93  
Parts 73 and 74 of the Commission's Rules )  
 )

**REPLY COMMENTS OF THE  
NATIONAL ASSOCIATION OF BROADCASTERS**

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BROADCASTERS**

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## **EXECUTIVE SUMMARY**

NAB remains committed to the positions described in our initial comments in this proceeding. We oppose the concept of negotiated interference, the reduction of mileage separations for second- and third-adjacent channel stations and the adoption of the point-to-point (“PTP”) contour prediction method. Additionally, NAB believes the Commission should not downgrade certain Class C FM stations, nor revise the Class D technical and interference characteristics. NAB does, however, support the idea of allowing the filing of contingent applications, as long as it does not involve any “interference negotiation.”

The Commission should not consider any alternatives to adjacent channel mileage restrictions, such as eliminating classes of stations and relying on “contour protection” as the mode of allocation for stations. Proposals such as these would only lead to a situation where stations are “boxed in,” often without the ability to modify facilities.

Additionally, the Commission should not impose a “double jeopardy” situation on many stations by establishing a new Class C0 class of FM stations. Many Class C stations spent hundreds of thousands of dollars to avoid reclassification in the 1980s. It is unfair to force many of these same stations to spend more money to avoid downgrading to Class C0. The stations that are operating at less than maximum facilities are not “wasting” spectrum, as some commenters argue. These stations – operating with minimum facilities – are still providing a more than adequate signal to the area that they would serve if they were operating at the maximum facilities permitted. Moreover, these same stations are not prohibiting nearby co-channel and adjacent channel stations from increasing their coverage areas because these stations’ signals serve a wider area than would be possible if the Class C station were operating with maximum facilities.

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**REPLY COMMENTS OF THE  
NATIONAL ASSOCIATION OF BROADCASTERS**

**I. INTRODUCTION AND OVERVIEW**

On October 20, 1998, the National Association of Broadcasters ("NAB")<sup>1</sup> filed its initial comments in the above-captioned proceeding. The Commission's "technical streamlining" *Notice of Proposed Rule Making*<sup>2</sup> sought comment on a wide range of concepts that could alter significantly the way radio stations are licensed and modified. Here NAB responds to various of the other parties who filed initial comments.

Based on a review of these parties' comments, NAB believes that the positions it has taken thus far in this proceeding are those which should be adopted by the Commission in its forthcoming decision in this docketed proceeding. New interference will harm the integrity of the broadcast bands (particularly the FM band, which is the subject of the bulk of the FCC's proposals), lead to poorer quality receivers and ultimately cripple radio broadcasters as they

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<sup>1</sup> NAB is a nonprofit, incorporated association of television and radio stations and networks which serves and represents the American broadcast industry.

<sup>2</sup> *Notice of Proposed Rule Making* in MM Docket 98-93, 63 Fed. Reg. 33892, \_\_\_ FCC Rcd \_\_\_ (1998) [hereinafter "*Notice*"].

strive to compete with satellite digital audio radio services in the future. In our comments, NAB provided substantial evidence of the impact that added interference in the FM band would have on radio receiver design. No other commenters addressed this issue -- an issue that we believe is central to the Commission's ultimate decision in this rule making.

There would be significant adverse consequences to the radio broadcast bands' technical integrity were the FCC to adopt rule modifications that would enhance the ability of stations to move closer together than is now permitted. Whether through the use of negotiated interference agreements, the application of the proposed point-to-point contour prediction method, Class C downgrading or any of the other proposals in the Commission's *Notice*, these actions unquestionably will increase interference in the band and ultimately make it harder for these and other broadcasters to make facility modifications in the future.

Radio stations do need siting flexibility. Indeed, this need may well be enhanced as radio stations may be displaced from television towers as TV licensees install digital antennas on these structures. But, siting flexibility should not be attained at the cost of avoidable new interference to existing service and new constraints on future siting flexibility.

#### **A. NAB's Initial Comments**

In developing NAB's initial comments in this proceeding, we relied on the work of an *ad hoc* group of industry and consulting engineers, as well as upon other various materials and documents.

NAB reviewed each of the concepts in the *Notice* according to four principles:

- Preserving the Technical Integrity of the FM Band
- Providing Reasonable Applicant Flexibility
- Cost/Benefit Analysis (in terms of costs/benefits to broadcasters and also costs/benefits to FCC policy and administrative goals)

- Minimizing Negative Effects on IBOC Development

On the basis of our evaluations, the NAB Radio Board of Directors voted on each of the proposals in the *Notice*. Our comments reflected these choices of the Radio Board.

NAB's comments opposed the concept of negotiated interference agreements -- a concept that goes to the heart of the interference protection concerns that are critical to maintaining the integrity of the FM band. Any negotiated interference agreements, we observed, negatively would impact all stations. We urged the Commission to look to the lessons learned from the AM experience and prevent similar events in the FM band by rejecting negotiated interference agreements.

Our comments supported the proposal to allow FM stations to file contingent applications, as long as the acceptance of the application is consistent with current interference protection standards and does not involve "interference negotiation." Processing contingent applications, NAB stated, would provide greater certainty and flexibility for applicants. NAB also supported the redefinition of many "major" change applications to "minor" changes for AM, noncommercial FM and FM translator stations. This proposal, we concluded, would lift burdens and delays imposed on both broadcasters and Commission staff.

NAB opposed reduced mileage separations for certain adjacent channel stations. We observed, among other things, that the reduction of mileage separations would pose a threat to the development of IBOC digital radio. We expressed our concern that current IBOC system designs would be threatened by increased interference if the Commission were to decrease the mileage separations as proposed. Additionally, we found that the proposal would have a negative impact on the design of -- and consumers' enjoyment of -- certain home and portable receivers.

NAB also concluded that the Commission should not adopt the point-to-point ("PTP") contour prediction method to determine the distance to FM radio interfering contours. The PTP method has not been developed to the degree that it may be considered as an accurate predictor of interference, nor of service.

As a central facet of our initial comments, NAB opposed the downgrading of certain Class C FM stations to a new Class C0 status. The limited benefits of the proposal that would be provided to some licensees, or that might facilitate entry of new stations, are outweighed by the impact on the affected Class C stations. These stations, we argued, should not be punished for not having constructed a maximum facility, because their choice of tower height may have been for legitimate local service reasons.

Finally, NAB opposed any rule revisions that would redefine Class D technical and interference characteristics. NAB stated its view that it did not oppose the rescission of Class D stations' paperwork burdens at license renewal time. Similarly, we lent support to efforts of the FCC to find ways that these existing Class D stations could improve their specific facilities. However, we challenged proposals to redefine the Class D service as such an action might be used to provide a model for the future licensing of additional "inefficient" uses of the radio spectrum – like a low power FM service.

## **B. Other Parties' Initial Comments**

A review of the record submitted thus far in the above-captioned proceeding clearly does not include comments from a majority of radio broadcasters. While a number of broadcast and broadcast-related companies have commented in this proceeding, most have a particular broadcast license that would be affected immediately by one or more of the rule changes proposed in the *Notice*. Some others do business with the broadcasting industry and

would stand to see some increased income from broadcast clients if the rules proposed were adopted. However, the Commission cannot lose sight of the fact that approximately 12,000 broadcasters, and roughly 270 million Americans did not comment in this proceeding -- in part because they do not recognize the significant impact that many of the Commission's proposals would have on the radio industry and on the service enjoyed by listeners.

The commenting parties in this proceeding can be broken down into three categories -- broadcasters, broadcasting consultants and broadcasting-related associations. Most of the broadcasters that commented in this proceeding have one or more specific facility modifications related to this proceeding that they would either like to make, or that they would like to prevent other broadcasters from making. The consultants that commented either have clients who are seeking to make facility modifications that might be made possible by this proceeding, or they have the potential to acquire new business through an increased number of facility modifications that could be made possible by this proceeding.

NAB recognizes and understands the motivations for these expressions of self-interest. However, the broadcasting-related associations that commented<sup>3</sup> generally do not stand to profit or lose from any of the specific proposals in this proceeding -- at least in the short term. They and their members do, however, stand to suffer in the long term if decisions are adopted in this proceeding that cause irreparable, long-term damage to the radio broadcasting service. We make this observation here because we believe it is critically important for the Commission to recognize that, although some commenting parties may have made sincere arguments in favor of, or against, a particular Commission rule change that relates to a particular factual situation, FCC rulemaking action that may seem compelling for an isolated

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<sup>3</sup> These are NAB and the Association of Federal Communications Consulting Engineers, Inc. ("AFCCE").



case can be detrimental to the broadcasting service as a whole when applied across the board and over time.

As an example of how something can be appropriate in one particular situation, but detrimental to the service as a whole if it is applied across the board, consider the case of negotiated interference agreements. If two specific stations, and only these two stations, were permitted to enter into a negotiated interference agreement, the impact on the FM broadcasting service as a whole would likely be minimal. However, the Commission cannot simply allow two stations to enter into such an agreement and forbid all others from creating their own agreements; nor can it call for the downgrade of only one Class C station failing to meet a new, arbitrary tower height standard.

It is the widespread use of any new "tools" coming out of this proceeding that can work untold and irreparable damage to the radio broadcast service. And at a time when it is critical for this service to maintain itself as interference-free as possible -- in light of Satellite DARS competition and the evolution of the terrestrial service itself to digital broadcasting -- it is essential that the Commission not work against the competitive and service potential of the medium.

**C. Siting Flexibility Must Not Compromise the Technical Integrity of the Radio Broadcast Bands.**

Some parties argue that because in many cases local zoning officials, FAA rules and other factors have made it impossible to build new towers, or to modify existing ones, the Commission should relax its FM interference protection criteria in order to provide more options for broadcasters seeking to move their towers. They suggest that relaxation of the Commission's existing FM station separations requirements -- in order to permit purported

modest and controlled amounts of voluntarily-incurred interference -- would provide highly-desired flexibility for FM licensees.

NAB completely agrees with these parties' description of the difficulties faced by FM broadcasters looking for new antenna locations as a result of the introduction of DTV service or due to other factors. However, we do not believe that permitting FM stations to cause more interference to one another is an appropriate solution to this problem.<sup>4</sup>

On the contrary, NAB believes that the FM allocations table and the co-channel and adjacent channel geographic separation criteria are necessary for the future survival and success of the FM service. Distance separation requirements generally leave stations with some flexibility for tower siting initiatives. Protected contours are not a brick wall beyond which listeners do not enjoy radio service. If the FCC were to substitute "contour protection" or "interference negotiation" as the rules for station licensing and modification, the result simply would be stations moving closer together, resulting in more interference and less long-term siting flexibility -- all ultimately leading to lower fidelity from receivers.

## **II. THE FM ALLOCATION TABLE, AND THE CO- AND ADJACENT-CHANNEL GEOGRAPHIC SEPARATION CRITERIA, ARE NECESSARY FOR THE FUTURE SURVIVAL OF THE FM SERVICE.**

In his comments, Thomas Desmond says, "the ideal solution is to eliminate the classes of FM stations entirely, in which case new or modified FM assignments would be based on avoiding overlap of interfering contours, as is currently done in the non-commercial portion

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<sup>4</sup> One factor which *should* be part of the solution would be the adoption of FCC rules in MM Docket No. 97-182. In this proceeding the Commission has proposed to adopt time limits and other procedural standards for local officials who are presented with requests for approval of a new or modified broadcast site. *See Notice of Proposed Rule Making* in MM Docket No. 97-182, 12 FCC Rcd 12504 (1997).

of the FM band.”<sup>5</sup> The Commission must reject this idea. Basing non-reserved band FM facility allocations solely on contour protection standards would soon lead to a situation in which every FM station in the non-reserved band is “boxed in” and unable to move its transmitter in any direction. This would make it impossible for FM broadcasters to modify their transmission facilities to keep up with the changing needs of their communities.

If the Commission issued FM licenses on a territorial basis and with multiple frequencies available to each licensee (*e.g.* in the same manner that it issues cellular telephone licenses) then Desmond’s suggestion would make sense. Under such a licensing scheme a station would provide FM broadcast service to all of the area within its licensed territory, and the interfering signals from its transmitters would not overlap the signals from licensees in adjacent territories any more than permitted by the Commission’s rules. In this manner, continuous FM broadcast coverage could be provided to all parts of the country, with no areas in between population centers that have little or no service. The problem with this scheme, however, is that because each licensee must have multiple frequencies so that its various signals within its licensed territory do not interfere with one another, the total number of licenses available for any particular community is reduced from what is available under the Commission’s existing licensing scheme.

Under the existing broadcast licensing scheme, each licensee only has one signal with which to cover its community. It is unable to guarantee service to everyone that might, for example, be located within the Metropolitan Statistical Area (MSA) for which the community’s cellular telephone licenses have been issued. As the population within this MSA grows and shifts the cellular company can deploy new transmitters in the areas where there is increased demand for service. The broadcaster, on the other hand, must move or

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<sup>5</sup> Desmond comments at 3.

otherwise modify its one and only transmitter to meet increased demand for its service. It also has the option of setting up a fill-in translator or booster station, though licenses for these types of stations are becoming harder and harder to obtain, particularly in major population centers. If, as Desmond wants, all broadcasters were to become locked in to their existing site, unable to move in any direction, then they would be unable respond to the future needs of their communities.

Of course, one can argue that the Commission's minimum distance separation requirements<sup>6</sup> themselves can cause stations to become "boxed in" and unable to move in any direction. This can happen, for example, if a community A happens to be 115 km from another community B, which happens to be 115 km from a third community C. If co-channel Class A facilities have been allocated to all three communities, then the station in community B is rather effectively boxed in by the other two. Situations like this cannot be avoided, and the Commission should not attempt to provide "relief" to stations in these situations if this "relief" would result in additional interference.

While the existing separation requirements can themselves result in situations where stations are boxed in, they also provide needed future flexibility in many situations. For example, consider a situation like the one described above except where the three communities involved are separated by 130 km. In this situation, each of the stations involved has the ability to relocate its transmitter within its community to better serve areas where future growth occurs. The distance between the communities exceeds the minimum Class A separation distance by enough of a margin to provide each station the opportunity to move its transmitter and still comply with the separation requirement.

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<sup>6</sup> See 47 CFR Sections 73.207 and 73.215.

Another problem with allocating facilities based solely on contour protection is that radio receivers vary widely in their performance. Evidence of this fact was included in our comments in this proceeding.<sup>7</sup> If the Commission allocated all commercial FM facilities based solely on contour protection, then the vast number of radio listeners with receivers that do not measure up to the assumptions embedded in the Commission's contour protection criteria would suffer interference, even when trying to listen to a desired station within that station's "protected" contour. Minimum distance separation criteria helps to provide some measure of relief to many of these listeners.

### **III. CONTINUED USE OF THE F(50,50) AND F(50,10) CURVES IS THE MOST APPROPRIATE MEANS OF PREDICTING COVERAGE.**

In our comments we elaborated on why the proposed "point-to-point" contour prediction method should not be used to determine the acceptability of proposed new or modified FM allocations.<sup>8</sup> In its comments, AFCCE agrees with our assessment of the "point-to-point" method.<sup>9</sup> AFCCE says, "it is strongly urged that there be no further consideration of the proposed PTP model as an alternative to the existing FCC model."<sup>10</sup> The analyses provided by NAB and AFCCE in initial comments in this proceeding clearly demonstrate that the PTP model should not be adopted by the Commission. None of the other commenters have provided any evidence to refute the NAB and AFCCE arguments.

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<sup>7</sup> NAB comments at 18.

<sup>8</sup> NAB comments at 24-30.

<sup>9</sup> AFCCE comments at 2-5.

<sup>10</sup> *Id.* at 5.

**IV. CLASS C STATIONS WITH HAATS BELOW 451 METERS SHOULD NOT BE DOWNGRADED.**

KEXL-FM reports that it spent over a quarter of a million dollars to upgrade its Class C facility just over ten years ago in response to the Commission's reclassification of certain Class C stations.<sup>11</sup> Northwestern College says that it spent over one million dollars to regain its Class C status after being downgraded to Class C1.<sup>12</sup> The high costs incurred by existing Class C stations to retain or regain their Class C status in response to the Commission's previous decision to downgrade certain Class C stations is reason enough to reject the idea of *another* Class C downgrading decision now. It is simply inappropriate for the Commission to continually "move the bar" for these stations, forcing them to spend large sums of money in order to comply with new rules every few years. While we believe this argument is sufficient reason for the Commission to reject the idea of a new Class C0 category, we will also address some of the other comments offered on this subject.

Several commenters argue that Class C stations with HAATs below 600 meters are "wasting" spectrum. For example, Graham Brock, Inc. argues that "many [Class C] stations licensed in the 300 to 350 meter range are clearly not operating in the public interest since were it not for over protection of this less than maximum Class C facility other stations could have improvements ..."<sup>13</sup> Thomas Desmond says that, if the Commission were to refrain from modifying its definition of Class C stations and not make other changes to its allocation rules, "stations that operate well under their class maximum facilities would continue to be protected based on their maximum class contour, rather than their actual facilities. This

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<sup>11</sup> WJAG/KEXL comments at 1.

<sup>12</sup> Northwestern College comments at 1.

<sup>13</sup> Graham Brock comments at 5.

protection results in FM band licensing being significantly less efficient than it could be.”<sup>14</sup>

V-Soft Communications says of the Commission’s Class C0 proposal, “this would make possible a more efficient use of the spectrum rather than protecting Class C stations that have made no effort to improve facilities to other than the minimum for the class.”<sup>15</sup>

The argument that an FM station is “wasting spectrum” if it is not operating with the maximum facilities permitted for its class is clearly invalid. A Class C station operating with the *minimum* facilities permitted under the Commission’s rules<sup>16</sup> is still providing a more than adequate signal to all of the area within what would be its 60 dBμV/m protected contour if it were operating with the *maximum* facilities permitted under the Commission’s rules.<sup>17</sup>

Furthermore, while the proponents of downgrading Class C stations would have the Commission believe that Class C stations operating with less than maximum facilities are somehow *prohibiting* geographically adjacent stations from increasing their coverage areas, the truth is that these Class C stations are *permitting* geographically adjacent stations to serve a wider area than would be possible if the Class C station were operating with maximum facilities. These two points are very important, so we will elaborate on them more here.

A comparison of the signal coverage of two Class C stations, one with the maximum Class C facility permitted and the other with the minimum Class C facility permitted, demonstrates that Class C stations with minimum facilities do not “waste” spectrum. This comparison is illustrated in Figure 1. In this figure, a Class C station with maximum facilities

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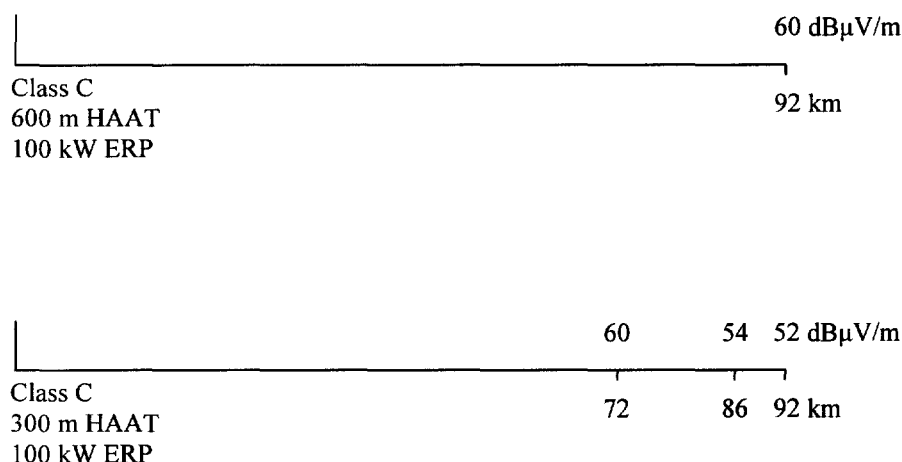
<sup>14</sup> Desmond comments at 3.

<sup>15</sup> V-Soft comments at 6.

<sup>16</sup> See 47 CFR Section 73.211. The minimum Class C facilities permitted are 100 kW effective radiated power at an antenna height above average terrain of 300 meters.

<sup>17</sup> See 47 CFR Section 73.211. The maximum Class C facilities permitted are 100 kW effective radiated power at an antenna height above average terrain of 600 meters.

(HAAT of 600 meters) and a protected contour (60 dB $\mu$ V/m ) that extends 92 km from the transmitter is illustrated. Also shown is a Class C station with the minimum Class C HAAT of 300 meters. While the latter station's 60 dB $\mu$ V/m contour extends only 72 km from the transmitter, its 54 dB $\mu$ V/m contour (the protected contour for Class B stations) extends 86 km from the transmitter, and at 92 km from the transmitter its signal strength is 52 dB $\mu$ V/m. Even though the latter station is not producing a 60 dB $\mu$ V/m contour 92 km from the transmitter, it clearly *is* producing a very usable signal at that location.<sup>18</sup> Class C stations with the minimum HAAT clearly *do* serve all listeners within what would be their protected contours if they were operating with the maximum HAAT.



**Figure 1**

<sup>18</sup> An FM signal of 48 dB $\mu$ V/m (250  $\mu$ V/m) is typically considered usable. The Commission's rules stipulate that low-power, non-licensed transmissions in the FM band may provide a 250  $\mu$ V/m signal up to three meters from the transmitting antenna (*see* 47 CFR Section 15.239). The Commission estimates that such low-power transmissions will have an "effective service range of approximately 35 to 100 feet (11 to 30 meters)." *See* Federal Communications Commission (last modified December, 1998), <<http://www.fcc.gov/mmb/asd/lowpwr.html>>.



The above discussion illustrates that Class C stations with the minimum HAAT of 300 meters clearly do serve all of the listeners they are intended to serve – thus claims that such stations are “wasting” spectrum by not providing adequate service to their intended coverage area are not true.

Another misconception about Class C stations with less than maximum facilities is the idea that they are preventing geographically adjacent stations from expanding their coverage areas. In reality, Class C stations that have not built the maximum facility allowed are providing geographically adjacent stations with additional coverage that they would otherwise be denied if the Class C station were to build the maximum facility allowed. By having a less than maximum HAAT, the Class C station shrinks the size of its interfering contour and thus permits the signal of a geographically adjacent station to provide usable service to a wider area. The planning factors incorporated into the Commission’s FM allocation criteria dictate this outcome.

Specifically, the Commission considers co-channel interference not to exist when a desired station’s signal is at least 20 dB stronger than a co-channel inteferer.<sup>19</sup> It considers first adjacent channel interference to be non-existent when a desired station’s signal is at least 6 dB stronger than a first adjacent channel interferer.<sup>20</sup> And, it considers second and third adjacent channel interference to be non-existent when an interfering station’s signal is no more than 40 dB stronger than a desired station’s signal.<sup>21</sup> If, at a particular location, a particular station’s signal is strong enough to be received, and if it is not being interfered with to an extent any greater than described in the above planning factors, then that location can be

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<sup>19</sup> See 47 CFR Section 73.215.

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

considered part of the station's coverage area – regardless of whether the point happens to be within or outside of the station's protected contour.

All of this is very important because, using a Class A station and a co-channel Class C station as an example and assuming both stations have the maximum facilities allowed and are located as close together as possible under the provisions of Section 73.207, the Class C station will produce an interfering signal that is 20 dB below the Class A station's signal at the Class A station's protected contour. If the Class C station were to reduce its facility to the minimum permitted under Section 73.211, its interfering signal at the Class A station's protected contour would be 25 dB below the Class A station's signal. The point at which the Class A station begins to experience unacceptable co-channel interference (*i.e.* the point where the Class C station's interfering signal is 20 dB below the Class A station's signal) is extended to a distance of 35 km from the Class A station's transmitter, 7 km farther than the Class A station's protected contour. At 35 km the Class A station has a signal strength of 56 dB $\mu$ V/m – a stronger signal than that found at the protected contour of a Class B station. It is clear from this example that Class C stations operating with less than maximum facilities are not preventing geographically adjacent stations from increasing their service areas. In fact, just the opposite is true – they are permitting these stations to serve expanded areas.

Tables 1, 2 and 3 document just how much additional service area geographically adjacent stations can gain when a Class C station is operated with a HAAT of only 300 meters. Statistics are provided for all classes of stations for co- and first, second and third adjacent channel situations. These tables illustrate that geographically adjacent stations are already receiving the benefits of enhanced coverage due to the less than maximum facilities of certain Class C stations, and that downgrading of the Class C stations to the proposed Class C0 is not necessary for them to extend their coverage areas.

**Table 1**

| Co-channel station class | 73.207 separation distance (km) | Contour of co-channel station at which 73.207-spaced Class C station at 300 m HAAT produces interfering signal 20 dB below desired |
|--------------------------|---------------------------------|--|
| A                        | 226                             | 56 dB $\mu$ V/m contour (35 km)  |
| B1                       | 259                             | 54 dB $\mu$ V/m contour (51 km)  |
| B                        | 274                             | 54 dB $\mu$ V/m contour (65 km)  |
| C3                       | 237                             | 56 dB $\mu$ V/m contour (47 km)  |
| C2                       | 249                             | 57 dB $\mu$ V/m contour (58 km)  |
| C1                       | 270                             | 57 dB $\mu$ V/m contour (79 km)  |
| C                        | 290                             | 57 dB $\mu$ V/m contour (99 km)  |

**Table 2**

| 1 <sup>st</sup> adjacent station class | 73.207 separation distance (km) | Contour of 1 <sup>st</sup> adjacent station at which 73.207-spaced Class C station at 300 m HAAT produces interfering signal 6 dB below desired |
|--|---------------------------------|---|
| A                                      | 165                             | 54 dB $\mu$ V/m contour (39 km)   |
| B1                                     | 193                             | 52 dB $\mu$ V/m contour (55 km)   |
| B                                      | 217                             | 51 dB $\mu$ V/m contour (72 km)   |
| C3                                     | 176                             | 55 dB $\mu$ V/m contour (49 km)   |
| C2                                     | 188                             | 55 dB $\mu$ V/m contour (63 km)   |
| C1                                     | 209                             | 55 dB $\mu$ V/m contour (84 km)   |
| C                                      | 241                             | 54 dB $\mu$ V/m contour (108 km)  |

**Table 3**

| 2 <sup>nd</sup> /3 <sup>rd</sup> adjacent station class | 73.207 separation distance (km) | Contour of 2 <sup>nd</sup> /3 <sup>rd</sup> adjacent station at which 73.207-spaced Class C station at 300 m HAAT produces interfering signal 40 dB above desired |
|---|---------------------------------|---|
| A   | 95                              | 42 dB $\mu$ V/m contour (64 km)   |
| B1  | 105                             | 43 dB $\mu$ V/m contour (76 km)   |
| B   | 105                             | 47 dB $\mu$ V/m contour (82 km)   |
| C3  | 96                              | 45 dB $\mu$ V/m contour (71 km)   |
| C2  | 105                             | 47 dB $\mu$ V/m contour (82 km)   |
| C1  | 105                             | 53 dB $\mu$ V/m contour (89 km)   |
| C   | 105                             | 59 dB $\mu$ V/m contour (94 km)   |

Additionally, it is important to note that our discussion about the need for classes of stations and minimum distance separation criteria also apply to the issue of Class C downgrading. Creating intermediate station classes in order to permit FM facilities to be more densely packed geographically would lead to all of the same negative consequences that would result from adoption of a contour protection-only method of allocation.

**V. IT IS LOGICAL TO HARMONIZE THE 2<sup>ND</sup> ADJACENT CHANNEL SEPARATION CRITERIA FOR RESERVED BAND AND NON-RESERVED BAND STATIONS – BUT THE COMMISSION AND THE INDUSTRY MUST REMAIN AWARE OF THE SIGNIFICANCE OF ADJACENT CHANNEL INTERFERENCE IN AN IBOC DAB ENVIRONMENT.**

Several commenters support the Commission's proposal to apply a –40 dB desired-to-undesired signal ratio to second adjacent channel NCE FM stations.<sup>22</sup> The Commission already applies this standard to non-reserved band stations.<sup>23</sup> This would certainly be a logical rule change for the Commission to make, and we do not oppose it. It is important to note, however, that second adjacent channel separation, in particular, is expected to be of critical importance for the implementation of in-band, on-channel digital audio broadcasting ("IBOC DAB"). The companies developing IBOC DAB technology are being forced to address the –40 dB desired-to-undesired signal ratio for second adjacent channel stations because this is how these stations have been allocated in the non-reserved band for years. If IBOC DAB systems can be designed to work in the non-reserved band under these conditions then they clearly should be able to work in the reserved band under similar conditions. But,

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<sup>22</sup> Educational Information Corporation comments at 3. AFCCE comments at 6; Sound of Life comments at 5. Graham Brock comments at 6; Communications Technologies comments at 6.

<sup>23</sup> See 47 C.F.R. Section 73.215.

the Commission and reserved band broadcasters should keep in mind that the more restrictive second adjacent channel allocation criteria that currently apply to the reserved band could, if maintained, generally result in improved IBOC DAB coverage for reserved band stations. If it were practical, we would recommend harmonizing the reserved band and non-reserved band second adjacent channel allocation criteria by tightening the non-reserved band standard to a -20 dB desired-to-undesired signal ratio. However, given the number of facilities that have been authorized based on the -40 dB standard, such a rule change does not appear to be a realistically available alternative.

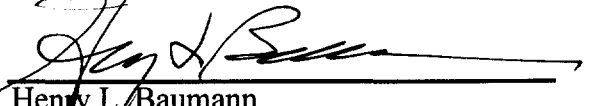
## VI. CONCLUSION


For the reasons stated herein and in the initial comments filed by NAB in this proceeding we urge the Commission to take steps in this proceeding that will reduce needless paperwork and procedural delays and afford licensees with important siting and allocations flexibility. However, such rule changes should not be made at the expense of increased interference on the radio broadcast bands.

Respectfully submitted,

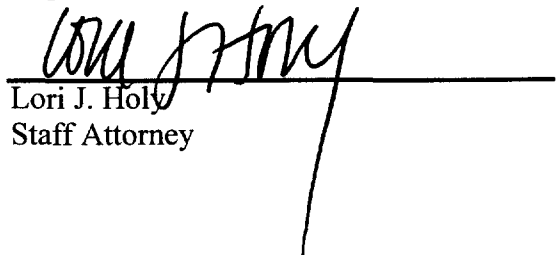
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